



---

# National Institute of Justice

## S o l i c i t a t i o n

---

*Julie E. Samuels, Acting Director*

*September 2000*

## NIJ Science and Technology Solicitation

**APPLICATION DEADLINE:**

October 24, 2000

**U.S. Department of Justice**  
**Office of Justice Programs**  
810 Seventh Street N.W.  
Washington, DC 20531

**Janet Reno**  
*Attorney General*

**Daniel Marcus**  
*Acting Associate Attorney General*

**Mary Lou Leary**  
*Acting Assistant Attorney General*

**Julie E. Samuels**  
*Acting Director, National Institute of Justice*

---

For grant and funding information, contact:  
**Department of Justice Response Center**  
800-421-6770

---

**Office of Justice Programs**  
**World Wide Web Site:**  
<http://www.ojp.usdoj.gov>

**National Institute of Justice**  
**World Wide Web Site:**  
<http://www.ojp.usdoj.gov/nij>

---

## PLEASE NOTE! CHANGES IN APPLICATION PROCESS

- Privacy Certificate—requirements have been revised
- Protection of Human Subjects—**new form** (310) required
- National Environmental Policy Act—there is a compliance advisory
- Items 10 (Catalog of Federal Domestic Assistance number)<sup>1</sup> and 12 (Geographic Areas Affected by Project—**new form**) of the SF 424 (Application for Federal Assistance)—there are now full instructions for completing these items.

For complete information about these changes, consult the *Guidelines for Submitting Proposals for National Institute of Justice-Sponsored Research*

## I. Introduction

The National Institute of Justice (NIJ) is the research and development arm of the U.S. Department of Justice. Created by Congress in 1968, the Institute is charged with investing public funds to develop knowledge that will reduce crime, enhance public safety, and improve the administration of justice. Under its enabling legislation, NIJ is authorized to assist State and local justice systems in the following ways:

- By conducting and sponsoring basic and applied research into the causes, prevention, and detection of crime.
- By sponsoring evaluations of major Federal initiatives concerning crime and justice.
- By supporting research, demonstrations, and validations to develop new approaches, techniques, systems, and equipment to improve law enforcement and the administration of justice.
- By developing, validating, and evaluating new technologies to deter crime and enhance criminal justice operations.
- By making recommendations to Federal, State, and local governments.
- By conducting conferences and workshops for criminal justice policymakers and professionals.

- By collecting and disseminating both domestic and international criminal justice information obtained by the Institute or other Federal agencies.

NIJ's portfolio covers a diverse and dynamic array of research and development topics. Over the course of each year, the Institute's research program evolves as a result of consultations with researchers; technologists and practitioners; Federal, State and local policymakers; and partnerships with other public and private organizations. The NIJ Research Portfolio, which lists ongoing NIJ research and development, with project descriptions, is available in hard copy and online. The Institute encourages prospective applicants to consult the portfolio as well as *Building Knowledge About Crime and Justice: The 2000 Research Prospectus of the National Institute of Justice*, as guides to NIJ's approach to criminal justice research and development. (See section V of this solicitation for instructions on obtaining these and related documents.)

## II. Background

For fiscal year 2001, NIJ will accept proposals for technology-related awards under this solicitation, and later will accept applications for behavioral and social science-related awards under a separate solicitation. Therefore, it is important that applicants understand that their proposals will be reviewed by a peer review panel composed of technologists and criminal justice practitioners under this solicitation.

# S o l i c i t a t i o n

This solicitation is open to a wide variety of proposals in order to achieve a balanced portfolio of product development, implementation, and evaluation projects. This solicitation focuses on near-term (one to three years) development and implementation projects.

To assist in obtaining information that may be helpful in submitting a proposal, you are encouraged to use the resources and expertise of the NIJ National Law Enforcement and Corrections Technology Center (NLECTC) located in Rockville, Maryland; the regional NLECTCs located in Rome, New York, Charleston, South Carolina; Denver, Colorado, El Segundo, California, and the Border Research and Technology Center (BRTC) located in San Diego, California. More information about the NIJ NLECTC system is available on the Internet at <http://www.nlectc.org>.

You should keep in mind that cost considerations of resulting technology development products are a major concern. Most law enforcement and corrections agencies have limited financial resources to apply to the evaluation, development, implementation, or purchase of technology. This is especially true for State and local agencies. These and related factors all influence the timeliness and the degree to which new technologies are accepted by administrators. Please consider the questions below when determining the usefulness of your proposal. In your proposal, you should incorporate information that addresses the general themes posed by these questions; however, it is not necessary to answer explicitly each question.

- How important is the new technology to law enforcement and corrections officers?
- What will be its impact on policing or correctional organizational structure and personnel requirements?
- How many units will be needed?
- What are the hidden costs? For example, new computers may require additional data input personnel, or highly specialized and complex equipment may incur expensive maintenance costs.
- What, if any, are the net savings in labor or other costs?
- How much training is required to use and maintain the technology?
- How will the courts view the technology—in terms of liability or interference with personal freedom? What constitutional or other legal issues may arise from utilization of the technology?
- What is the breakdown of tasks with resource expenditures for each task? (A task breakdown is sometimes very helpful for NIJ managers, who can better understand how the proposer plans to accomplish the work.)
- How will the development, implementation, or evaluation of this technology support information exchange?
- How will the development, implementation, or evaluation of this technology integrate with existing technology or work with existing technical infrastructure?
- What technical standards are or will be employed in the development, implementation, and evaluation of this technology?

## III. Areas of Research Required

Within the following research areas, there are specific topics that could meet critical law enforcement and corrections needs. These topics are not considered to be exclusive; you may submit proposals in other areas. Listed below are general descriptions of some of the kinds of programs and projects included in NIJ's current portfolio and that may also be relevant to this general solicitation.

### A. Communications Interoperability Technology.

The work of public safety requires effective coordination and communication among numerous public safety agencies. Unfortunately, many police officers, firefighters, and emergency medical service personnel responding to the same incident cannot communicate with each other. NIJ solicits proposals that will develop, examine, or improve interoperable

# S o l i c i t a t i o n

voice communications and high-bandwidth communications technologies for State and local law enforcement and corrections agencies.

In the area of interoperable voice communications, NIJ is interested in proposals that will provide public safety officials with the ability to overcome disparate bands, frequencies, and waveform generation techniques, thereby enabling regional voice communications interoperability for day-to-day and mutual aid situations. NIJ is interested in proposals that will also provide public safety officials with the ability to transmit from stationary and mobile platforms, high-bandwidth information, such as still images and near real-time video, using common standards and open architecture techniques.

Please note that NIJ does not intend to fund “stove-piped” voice communications design solutions but instead requires that all proposed approaches consider ways to accomplish voice interoperability across agency and/or jurisdictional boundaries. The use of common industry standards and open system architectures is encouraged.

While it may be necessary for you to propose a solution that involves proprietary techniques, if it is determined that this approach will preclude or minimize interoperability, then your proposal will be deemed non-responsive to this solicitation and will not be considered for award.

**B. Counterterrorism.** NIJ, in collaboration with its technology partners including the FBI and Technical Support Working Group, is in the third year of a concerted effort to develop technologies to better enable State and local law enforcement and other first responders to deal with terrorist acts. Areas of specific interest in this solicitation include explosive detection and remediation technologies and techniques.

**C. Information Technology.** NIJ solicits proposals that will develop, examine, or improve software, database management, electronic imaging, search and retrieval methods, computer-based information acquisition, information processing, data storage, data dissemination, information resource security, and other information/data processing technologies that support the sharing of information among State and

local public safety, law enforcement, and corrections agencies.

Please note that NIJ does not intend to fund “stove-piped” IT design solutions but instead requires that all proposed approaches consider ways to accomplish information sharing across agency and/or jurisdictional boundaries. The use of common industry standards and open system architectures is encouraged.

While it may be necessary for you to propose a solution that involves proprietary techniques, if it is determined that this approach will preclude or minimize interoperability, then your proposal will be deemed non-responsive to this solicitation and will not be considered for award.

NIJ solicits proposals that would (1) provide technical, organizational, and operational systems permitting Federal, State, or local law enforcement and corrections agencies to share information; (2) describe the common needs and new or modified requirements for an information system; (3) describe which of the current information systems could or should be linked together and how this should be accomplished; (4) describe any new or novel applications of information technology and the cost effectiveness of any proposed shared information system; (5) provide a plan for implementation of any proposed information systems or technologies; and (6) improve data analysis techniques.

Please note, NIJ encourages that all proposed designs consider ways to support information exchange, integrate with existing infrastructures, and adhere to commonly accepted technical standards.

**D. Investigative and Forensic Science.** This solicitation seeks proposals that will advance or improve forensic science technologies and methods to benefit the criminal justice system. Examples of research proposals might include enhancing our understanding of certain scientific aspects of forensic physical evidence; expansion of trace evidence and questioned document examination techniques; and techniques; and employment of advanced DNA/serology, pathology, entomology, odontology, and toxicology methods.

Specific focus in the area of enhanced technology includes development of affordable, rapid, and portable technologies designed to improve the ability of State and local law enforcement agencies to support the investigation and adjudication of violent crime.

All proposals must demonstrate novelty in technological developments that will result in enhanced performance (e.g., improved reliability, reduced cost). Proposals that result in the development of an end product (e.g., reagent, methodology) which could be adopted as an effective forensic or investigative tool are encouraged.

**E. Less-Than-Lethal (LTL).** NIJ seeks technologies that provide new or significantly improved less-lethal options to conventional use-of-force methods that reduce the number of deaths and injuries to suspects, prisoners, officers and bystanders in law enforcement and corrections encounters. Examples of scenarios in which LTL devices may be used include, but are not limited to, confrontation with subjects who assault officers or refuse to comply with lawful orders and who may be armed with a weapon and individuals who become violent or uncooperative. A proposal must include information on the health effects of the proposed LTL devices from the effect produced on the subject to the effect on bystanders and on persons employing the LTL device. Any disabling effect on an offender must be of a short duration and completely reversible. You must clearly articulate the expected reduction in the incidence of injury to officers and combative suspects. You must make cogent arguments that the proposed technique or device is quantitatively more effective or safer than that currently used to achieve the same objective.

NIJ is also interested in providing useful information to law enforcement and corrections officers regarding the safety and effectiveness of LTL weapons. To gain a better understanding of these issues, research and model development on the human response to these weapons are needed to evaluate new and current LTL weapons.

Included in LTL technology is vehicle stopping technology—developing and improving methods police may employ to safely stop fleeing vehicles, including use of stationary systems for check points, police vehicle-based systems, and hand-held portable devices.

**F. Non-invasive Drug Detection.** Candidate technologies include low cost, noninvasive, non-urine based technology such as hair analysis, eye tracking, telemetered perspiration, micro-assay card, drug abuse relay bracelet/patch, and non-invasive blood sensors for drug testing and screening. Emphasis will be placed on the evaluation of techniques and existing technologies rather than the development of new technologies.

**G. Officer Protection and Crime Prevention.** Techniques, materials, and methods are needed to improve the protective and safety equipment used by law enforcement and corrections officials. Your applications addressing officer protection should emphasize improving the degree of protection, comfort and fit of body-worn equipment, ease of use, and cost of protection equipment. Your applications in this area should describe the development of systems that are easy to use, require low power (primarily for man-portable or unattended applications), and are inexpensive to purchase and operate. Some examples of this type of technology are sensors and monitors (perimeter/physical security), biometric identification applications (e.g., face recognition, voice identification), personal protection (e.g., body armor, handcuffs, helmets).

The development, adaptation of existing systems, appropriate deployment, and analysis of closed circuit television (CCTV) is an area that could benefit public safety. Image processing, enhancement and analysis may also be useful. For some types of safety threats (e.g., telephoned bomb scares), speaker identification might have some value. However, it is incumbent on the applicant to articulate the expected benefits and cost trade-offs with existing approaches for dealing with the problems that the technology seeks to address.

**H. Tracking and Monitoring.** NIJ solicits proposals that will develop, examine, or improve technologies capable of tracking and monitoring offenders 24 hours a day. NIJ is looking for technology that will enable corrections agencies to track an offender's every movement in the community and to provide precise location at all times including the capability to track the offender inside and outside of buildings. NIJ is specifically interested in tracking and monitoring

technology that incorporates biometric or other methods of offender identification.

NIJ encourages the submission of any research, development, and application proposals that will result in creative, innovative technologies to benefit law enforcement and corrections personnel. All proposals in technology application, assessment, or practice areas not addressed in the previous focus areas will be considered. You must explain the benefit derived from your proposal that will assist law enforcement and corrections.

## IV. Selection Criteria

NIJ is firmly committed to the competitive process for awarding grants. All proposals are subjected to an independent, peer-review panel evaluation. The peer-review panel consists of members with academic, practitioner, technical, and operational expertise in the subject areas of the solicitation. Selection criteria used to evaluate proposals are as follows:

### 1. Quality and Technical Merit

- Soundness of methodology, analytic, or technical approach.
- Innovation and creativity.
- Feasibility of proposed project; awareness of pitfalls.
- Awareness of existing research and developmental work currently underway or completed, and related applications.

### 2. Impact of the Project

- Understanding the importance of the problem.
- Potential for significant advance in crime prevention, law enforcement, courts, corrections, or other practice or policy areas.
- Potential for advancement of scientific understanding of the problem area.

- Relevance to practice, including development and demonstration in application domains (if applicable).

- Affordability of proposed end products by law enforcement or corrections users (if applicable), including maintenance and training.

### 3. Capabilities, Demonstrated Productivity, and Experience of Applicants

- Qualifications and experience of personnel as related to proposed project.
- Responsiveness to the goals of the solicitation.
- Demonstrated ability to manage proposed effort.
- Adequacy of proposed project management plan including, where appropriate, a task breakdown listing expenditure of resources for each task.
- Adequacy of proposed resources to perform effort.

### 4. Budget Considerations<sup>2</sup>

- Total cost relative to perceived benefit.
- Use of existing resources to conserve costs.
- Cost-effectiveness of program or product for application in the criminal justice system (if applicable).

After peer-review panelists' consideration, Institute staff make recommendations to NIJ's Director based on the results of the independent reviews. Final decisions are made by the NIJ Director following consultation with Institute staff.

## V. How to Apply

Persons interested in submitting research proposals under this solicitation must submit the required application materials. (See below for instructions on obtaining application forms and guidelines.) Applications must include the following information or completed forms to qualify for funding:

# S o l i c i t a t i o n

- Standard Form (SF) 424—application for Federal assistance
- **Geographic Areas Affected Worksheet–NEW FORM**
- Assurances
- Certifications Regarding Lobbying, Debarment, Suspension, and Other Responsibility Matters; and Drug-Free Workplace Requirements (one form)
- Disclosure of Lobbying Activities
- Budget Detail Worksheet
- Budget Narrative
- Negotiated indirect rate agreement (if appropriate)
- Names and affiliations of all key persons from applicant and subcontractor(s), advisors, consultants, and advisory board members. Include name of principal investigator, title, organizational affiliation (if any), department (if institution of higher education), address, phone, and fax
- Proposal abstract<sup>3</sup>
- Table of contents
- Program narrative or technical proposal
- **Privacy certificate–REVISED**
- **Form 310 (Protection of Human Subjects Assurance Identification/Certification/Declaration)–NEW FORM**
- **Environmental Assessment (if required)–NEW**
- References
- Letters of cooperation from organizations collaborating in the research project
- Résumés
- Appendices, if any (e.g., list of previous NIJ awards, their status, and products [in NIJ or other publications])

**Confidentiality of information and human subjects protection.** NIJ has adopted new policies and procedures regarding the confidentiality of information and human subjects protection. Please see the *Guidelines for Submitting Proposals for National Institute of Justice-Sponsored Research* for details on the new requirements.

The Office of Justice Programs encourages integration and interoperability of information technology (IT) systems between all justice agencies and across Federal, State, and local jurisdictional boundaries. IT systems include automated information systems used by each of the justice system components (law enforcement, courts, prosecution, defense, corrections,

probation and parole) in their internal day-to-day business and in communicating with each other. To support State and local justice integration and interoperability of these systems, OJP asked the Governor to designate a "point of contact" to provide information on IT plans and coordination in your State. State and local recipients of awards that will be used in whole or in part for information systems may be required by the awarding OJP Bureau to communicate with this point of contact about their information technology plans. By increasing local communication when planning and implementing information technology, OJP funds may be used to support interoperable, rather than isolated, information systems.

The name and address of your State Information Technology Point of Contact can be obtained by calling our customer service line at 1-800-458-0786, or on the OJP web page at <http://www.ojp.usdoj.gov/ec/states.htm>.

**Page limit.** The number of pages in the "Program Narrative" part of the proposal must not exceed 30 (double-spaced pages), no matter the amount of funding requested.

**Due date.** Completed proposals **must be received** at the National Institute of Justice by the close of business on **October 24, 2000**. Extensions of this deadline will not be permitted.

**Award period.** In general, NIJ limits its grants and cooperative agreements to a maximum period of 12 or 24 months. However, longer budget periods may be considered.

**Applying.** Two packets need to be obtained: (1) application forms (including a sample budget worksheet) and (2) guidelines for submitting proposals (including requirements for proposal writers and requirements for grant recipients). To receive them, applicants can:

- Access NIJ's Funding Opportunities Page on the World Wide Web: <http://www.ojp.usdoj.gov/nij/funding.htm>. NIJ application policies and forms are available as electronic files that may be downloaded to a personal computer.



# S o l i c i t a t i o n

- Access the Justice Information Center on the Web:  
<http://www.ncjrs.org/fedgrant.htm#nij>

This Web site offers the NIJ application forms and guidelines as electronic files that may be downloaded to a personal computer.

- Request hard copies of the forms and guidelines by mail from the National Criminal Justice Reference Service at 800–851–3420 or from the Department of Justice Response Center at 800–421–6770 (in the Washington, D.C., area, at 202–307–1480).
- Request copies by fax. Call 800–851–3420 and select option 1, then option 1 again for NIJ. Code is 1023.
- For additional information or to request mail delivery contact the National Criminal Justice Reference Service at 800-851-3420.

For further information on NIJ research, see:

- *NIJ Awards in Fiscal Year 1999* (NCJ 179016).
- *Building Knowledge About Crime and Justice: The 2000 Research Prospectus of the National Institute of Justice* (NCJ 178903).
- *National Institute of Justice Year in Review 1999* (NCJ 182948).
- *1999 NIJ Research Portfolio* (NCJ 179017).  
Online at <http://nij.ncjrs.org/portfolio/>.

3. The proposal abstract, when read separately from the rest of the application, is meant to serve as a succinct and accurate description of the proposed work. Applicants must concisely describe the research goals and objectives, research design, and methods for achieving the goals and objectives. Summaries of past accomplishments are to be avoided, and proprietary/confidential information is not to be included. Length is not to exceed 400 words. Use the following two headers: (1) Project Goals and Objectives and (2) Proposed Research Design and Methodology.

**Guidance and information.** Applicants who wish to receive additional guidance and information may contact the U.S. Department of Justice Response Center at 800–421–6770. Center staff can provide assistance or refer applicants to an appropriate NIJ professional. Applicants may, for example, wish to discuss their prospective research topics with the NIJ professional staff. However, applicants are expected to obtain and carefully read application forms and proposal guidelines in advance.

**Send completed forms to:** Ten (10) copies of fully executed proposals must be received by NIJ by 4:00 P.M. on **October 24, 2000**. Proposals must be sent to the following address:

NIJ Science and Technology Solicitation  
c/o James McNeil, Program Manager  
National Institute of Justice  
810 Seventh Street N.W.  
Washington, DC 20531  
[overnight courier ZIP code 20001]

---

## Notes

1. You should choose a title in block 10 of SF 424 Application for Federal Assistance for your proposal that is descriptive of your project and succinct.
2. When estimating budget requests, investigators should note that NIJ policy prohibits the use of grant funds for operational, training, or other nonresearch costs of the project.

For more information on the National Institute of Justice, please contact:

**National Criminal Justice Reference Service**

Box 6000  
Rockville, MD 20849-6000  
800-851-3420  
e-mail: askncjrs@ncjrs.org

You can view or obtain an electronic version of this document from  
the NCJRS Justice Information Center web site (<http://www.ncjrs.org>) or the NIJ web site  
(<http://www.ojp.usdoj.gov/nij>).